

IN THE CLAIMS

1. (Currently amended) A picture synthesizing apparatus comprising:

an image pickup means that is in operative association with a vehicle disposed on a road surface and that is adapted to obtain an original image of an a surrounding object outside said vehicle as viewed from a viewpoint of the image pickup means;

a viewpoint change image synthesizing means that is adapted to produce a synthesized image, in which the outside surrounding object is viewed from a virtual viewpoint different from the viewpoint of the image pickup means and different along a direction substantially vertical to the road surface, from the original image obtained by said image pickup means; wherein said synthesizing means and is adapted to draw the synthesized image on a plane corresponding to the road surface;

a vehicle locus line generation means that is adapted to generate at least one of a locus line of said vehicle placed at an arbitrary height above from the road surface and a vertical line extending normal to the road surface; and

a vehicle locus line drawing means that is adapted to draw the locus ~~or vertical~~ line, generated by said vehicle locus line generation means, on the synthesized image produced by said viewpoint change image synthesizing means such that the drawn locus line is adapted to be viewed from the viewpoint of the image pick up means, wherein when the locus line as viewed from the viewpoint of the image pickup means is projected onto the road surface to form a first projected line, the first projected line is viewed from a virtual viewpoint, and the first projected line viewed from the virtual viewpoint is again projected onto the plane corresponding to the road surface to obtain a second projected line as the locus line drawn on the synthesized image by projecting the locus ~~or vertical~~ line viewed from the viewpoint of the image pickup means

~~onto the road surface and again projecting the projected locus or vertical line viewed from the virtual viewpoint onto the plane corresponding to the road surface ; a storage means that is adapted to store predetermined auxiliary data; and~~

a drawing means that is adapted to superimpose stored auxiliary data upon a synthesized image produced by said viewpoint change image synthesizing means based on auxiliary data read from said storage means;

wherein said image pick up means is adapted to obtain an original image in which a rear part of said vehicle is positioned in a view field; and

wherein said picture synthesizing apparatus is adapted to represent said vehicle by an illustration of a skeleton or a wire frame, and is adapted to provide an image including a portion of said vehicle that is likely to come into contact with said outside object.

2. (Previously presented) The picture synthesizing apparatus according to claim 1 wherein said vehicle locus line generation means comprises three-dimensional locus line generation means, road surface projection means, and synthesized image projection means.

3. (Currently amended) The picture synthesizing apparatus according to claim 1 wherein said vehicle locus line generation means is adapted to generate generates a locus line that represents a vehicle that is moving linearly in a ease in which said car linearly advances.

4. (Currently amended) The picture synthesizing apparatus according to claim 1, further comprising steering wheel angle information output means that is adapted to output an angle of a for outputting a steering wheel angle of said vehicle, wherein said vehicle

locus line generation means is adapted to generate a the locus line that is in accordance with said steering wheel angle information outputted by said steering angle information output means.

5. (Currently amended) The picture synthesizing apparatus according to claim 1 further comprising that has a function that is adapted to interpolate or interpolating a locus line on a road surface associated with of said vehicle; and wherein the locus line is adapted to be at an the arbitrary height with respect to said road surface width a straight line or a curved line, and is adapted to draw drawing a line vertical to said road surface on said synthesized image.

6. (Currently amended) The picture synthesizing apparatus according to claim 1 further comprising means that is are adapted to draw a locus line of a bumper and of said vehicle and/or a locus line of a vehicle height on said synthesized image.

7. (Currently amended) The picture synthesizing apparatus according to claim 1 that which has a function of changing a color or a thickness of said locus line in accordance with a distance from said vehicle ear and drawing the locus line in said color or thickness to identify said distance.

8. (Currently amended) The picture synthesizing apparatus according to claim 4 further comprising that has a function for of drawing a section of said vehicle moved apart from a rear end of said vehicle along said locus line with an elapse of time on said synthesized image.

9. (Currently amended) The picture synthesizing apparatus according to claim 4 further comprising that has a function for of drawing a solid diagram of said vehicle moved apart from a rear end of said vehicle along said locus line as a function of with an elapse of time on said synthesized image.

10. (Previously presented) The picture synthesizing apparatus according to claim 4 wherein said vehicle locus line generation means comprises three-dimensional shape storage means, three-dimensional locus region generation means, road surface projection means, and synthesized image projection means.

11. (Previously presented) The picture synthesizing apparatus according to claim 10 wherein said three-dimensional shape storage means is adapted to store a shape of said vehicle.

12. (Currently amended) The picture synthesizing apparatus according to claim 10 wherein said three-dimensional shape storage means is adapted to store a shape of a rectangular parallelepiped inscribing inscribed by said vehicle.

13. Cancelled

14. (Previously presented) The picture synthesizing apparatus according to claim 10 wherein said three-dimensional shape storage means is adapted to store a shape of a bumper of said vehicle.

15. (Currently amended) The picture synthesizing apparatus according to claim 4, further comprising obstacle collision prediction means for detecting an obstacle present around outside and proximate to said vehicle, and means adapted to predict predicting a possibility of collision of said vehicle with said obstacle upon movement of said vehicle in the direction of said obstacle.

16. (Currently amended) The picture synthesizing apparatus according to claim 15 wherein said vehicle locus line drawing means is adapted does not to draw the locus line of said vehicle ahead of a collision place, when said obstacle collision prediction means predicts the collision of said vehicle with said obstacle.

17. (Currently amended) The picture synthesizing apparatus according to claim 15 wherein said vehicle locus line drawing means is adapted to emphasize and display emphasizes and displays a collision place, when and where said obstacle collision prediction means predicts the collision of said vehicle with said obstacle.

18. (Previously presented) The picture synthesizing apparatus according to claim 4, further comprising multi-screen generation means for displaying the image synthesized by said viewpoint change image synthesizing means in a multiplicity of divided screens.

19. (Currently amended) The picture synthesizing apparatus according to claim 18 wherein said vehicle locus line drawing means is adapted to draw draws a locus of the vehicle in each screen generated by said multi-screen generation means.

20. (Currently amended) The picture synthesizing apparatus according to claim 18 wherein said image pickup means includes at least one of means for picking up an image behind said vehicle, and means for picking up an image beside said vehicle.

21. (Currently amended) The picture synthesizing apparatus according to claim 18 wherein said vehicle locus line drawing means is adapted to draw draws a locus line of a rear end of said vehicle on an image beside said vehicle, or an image obtained by converting said image beside the vehicle.

22. (Currently amended) The picture synthesizing apparatus according to claim 19 wherein said vehicle locus line drawing means is adapted to draw draws the locus line or a vehicle frame indicating the same position in the same color in different screens, when said locus line is drawn in a plurality of screens.

23. (Currently Amended) AThe picture synthesizing apparatus according to claim 1 comprising:

~~an image pickup means that is attached to a vehicle disposed on a road surface and is adapted to obtain an original image of a surrounding object viewed from a viewpoint of the image pickup means;~~

~~a viewpoint change image synthesizing means that is adapted to produce a synthesized image, in which the surrounding object is viewed from a virtual viewpoint different from the viewpoint of the image pickup means along a direction substantially vertical to the road surface, from the original image obtained by said image pickup means and draws the synthesized image on a plane corresponding to the road surface;~~

an auxiliary line generation means that is adapted to draw an auxiliary line adapted to indicate ~~of indicating~~ an arbitrary position apart from said vehicle; and

an auxiliary line drawing means that is adapted to draw an ~~the~~ auxiliary line generated by said auxiliary line generation means on a ~~the~~ synthesized image produced by said viewpoint change image synthesizing means ~~by projecting the auxiliary line viewed from the viewpoint of the image pickup means onto the road surface and again projecting the projected auxiliary line viewed from the virtual viewpoint onto the plane corresponding to the road surface.~~

24. (Currently amended) The picture synthesizing apparatus according to claim 23, further comprising multi-screen generation means for displaying the image synthesized by said viewpoint change image synthesizing means in a multiplicity of divided screens, wherein said auxiliary line drawing means is adapted to draw ~~draws~~ the generated auxiliary line in each screen generated by said multi-screen generation means.

25. (Previously presented) The picture synthesizing apparatus according to claim 23 wherein said auxiliary line generation means is adapted to generate an auxiliary line indicating a position of a rear end of said vehicle.

26. (Previously presented) The picture synthesizing apparatus according to claim 23 wherein said auxiliary line generation means is adapted to generate an auxiliary line indicating a constant distance from a rear end of said vehicle.

27. (Previously presented) The picture synthesizing apparatus according to claim 23 wherein said auxiliary line generation means is adapted to generate an auxiliary line indicating a width of a general vehicle.

28. Cancelled

29. (Currently amended) The picture synthesizing apparatus according to claim 1 28 that has a function that is adapted to superimpose of superimposing an auxiliary line upon a rear edge of said vehicle, and that is adapted to provide providing an image emphasizing/indicating the corresponding position.

30. (Currently amended) The picture synthesizing apparatus according to claim 1 28 that has a function of providing an image showing a three dimensional illustration prepared as if the image of said vehicle were picked up by an actually disposed image pick up unit and converted/synthesized.

31. (Currently amended) The picture synthesizing apparatus according to claim 28 1 wherein said portion of said vehicle that is adapted to come into contact with said outside object comprises that has a function of representing said vehicle by an illustration of a skeleton or a wire frame, and providing an image explicitly indicating a tire or a bumper position.

32. (Currently amended) The picture synthesizing apparatus according to claim 31 which that has a function that is adapted to provide of providing an image obtained by

transforming/synthesizing an image actually obtained by said image pickup means in a region corresponding to a bumper of the illustration.

33. (Currently amended) The picture synthesizing apparatus according to claim 28 1 that has a function that is adapted to superimpose of superimposing an illustration of two wall surfaces disposed vertically to a road surface in a rear end position of said vehicle, and on an inner side of the rear end position of said vehicle, and having the same width as a width of said vehicle upon a displayed image, and providing an image metaphorically representing said vehicle as a solid object.

34. (Currently amended) The picture synthesizing apparatus according to claim 28 31 that has a function that is adapted to provide of providing an image showing a mirror confirmation line behind a rear end of a bumper of said vehicle by a constant distance and is adapted to be disposed horizontally with said bumper.

35. (Currently amended) The picture synthesizing apparatus according to claim 28 1 that has a function that is adapted to provide of providing an image including a road surface passage locus indicating a position obtained by projecting a position passed by a body end of said vehicle onto a road surface, and a bumper end passage locus indicating a position passed by a bumper end of said vehicle, when said vehicle moves backwards, and a solid auxiliary line for connecting the loci to produce a solid sense.

36. (Currently amended) The picture synthesizing apparatus according to claim 35 that has a function that is adapted to provide of providing an image showing said road

surface locus like a tire trace, and is adapted to indicate indicating the bumper end passage locus connected to a bumper end of an actual image or an illustration of said vehicle.

37. (Currently amended) The picture synthesizing apparatus according to claim 35 that which has a function that is adapted to provide of providing an image showing said road surface passage locus drawn from a perspective of a tire explicitly indicated in an illustration.

38. (Currently amended) The picture synthesizing apparatus according to claim 37 that has a function that is adapted to provide of providing an image showing a mirror confirmation line that is a constant distance behind a rear end of a bumper of said vehicle by a constant distance and is horizontal horizontally with said bumper.

39. (Currently amended) The picture synthesizing apparatus according to claim 35 that further comprises a locus calculation unit that is adapted to calculate a predicted locus from a steering angle signal inputted from the outside, and that has a function that is adapted to provide of providing an image including a road surface passage locus corresponding to a steering angle of said vehicle, a bumper end passage locus corresponding to the steering angle of said vehicle, and a solid auxiliary line for connecting the loci to produce a solid sense.

40. (Currently amended) The picture synthesizing apparatus according to claim 1 28 that has a function that is adapted to provide of providing an image simultaneously showing a road surface passage locus, a bumper end passage locus, and a passage locus

indicating a position passed by an appropriate height portion of a body of a vehicle, when said vehicle moves backwards.

41. (Currently amended) The picture synthesizing apparatus according to claim 40 that has a function that is adapted to provide of providing an image showing said road surface passage locus like a tire trace, and indicating said bumper end passage locus connected to a bumper end of an actual image or an illustration.

42. (Currently amended) The picture synthesizing apparatus according to claim 40 that has a function that is adapted to provide of providing an image showing said road surface passage locus drawn from a tire explicitly indicated in an illustration.

43. (Currently amended) The picture synthesizing apparatus according to claim 42 that has a function that is adapted to provide of providing an image showing a mirror confirmation line behind a rear end of a bumper of said vehicle by a constant distance and horizontally with said bumper.

44. (Currently amended) The picture synthesizing apparatus according to claim 40 that further comprises a locus calculation unit that is adapted to calculate a predicted locus from a steering angle signal inputted from the outside, and that has a function that is adapted to provide of providing an image that is adapted to simultaneously show road surface passage locus corresponding to a steering angle of said vehicle, said bumper end passage locus corresponding to the steering angle of said vehicle, a passage locus indicating a position passed

by an appropriate height portion of a body of said vehicle, and an illustration representing imitating a rear part of said vehicle.

45. (Currently amended) The picture synthesizing apparatus according to claim 1 28 that has a function that is adapted to provide of providing an image simultaneously showing a road surface passage locus, a bumper upper surface locus indicating a position passed by an end of a bumper upper surface of said vehicle, a bumper lower surface passage locus indicating a position passed by an end of a bumper lower surface of said vehicle, and an illustration imitating a rear part of said vehicle, when said vehicle moves backwards.

46. (Currently amended) The picture synthesizing apparatus according to claim 45 that has a function that is adapted to provide of providing an image showing said road surface passage locus like a tire trace, and is adapted to indicate indicating the bumper end passage locus connected to a bumper end of an actual image or an illustration of the vehicle.

47. (Currently amended) The picture synthesizing apparatus according to claim 45 that has a function that is adapted to provide of providing an image showing said road surface passage locus drawn from a tire explicitly indicated in an illustration.

48. (Currently amended) The picture synthesizing apparatus according to claim 47 that has a function that is adapted to provide of providing an image showing a mirror confirmation line that is a constant distance behind a rear end of a bumper of said vehicle by a constant distance and is disposed horizontal to horizontally with the bumper.

49. (Currently amended) The picture synthesizing apparatus according to claim 45 that further comprises a locus calculation unit adapted to calculate a predicted locus from a steering angle signal inputted from outside, and that has a function that is adapted to provide ~~of providing~~ an image simultaneously showing said road surface passage locus corresponding to the steering angle of said vehicle, said bumper lower surface passage locus corresponding to the steering angle of said vehicle, and an illustration representing ~~imitating~~ a bumper of said vehicle.

50. (Currently amended) An image synthesis/display apparatus comprising:

a picture synthesizing apparatus comprising:

an image pickup means that is adapted to be attached to a vehicle, that is adapted to be disposed on a road surface, and is enabled adapted to obtain an original image of an a surrounding object that is outside said vehicle and is adapted to be viewed from a viewpoint of the image pickup means;

a viewpoint change image synthesizing means that is adapted to produce a synthesized image, in which the outside surrounding object is viewed from a virtual viewpoint that is different from the viewpoint of the image pickup means ~~along a direction substantially normal to the road surface~~, from the original image obtained by said image pickup means and is adapted to draw the synthesized image on a plane corresponding to the road surface;

a vehicle locus line generation means that is adapted to generate ~~at least one of~~ a locus line of said vehicle placed at an arbitrary height from the road surface ~~and a vertical line extending vertically to the road surface~~; and

a vehicle locus line drawing means that ~~which~~ is adapted to draw the locus or ~~vertical~~ line generated by said vehicle locus line generation means on the synthesized image

produced by said viewpoint change image synthesizing means such that the locus line is viewed from the viewpoint of the image pickup means, wherein the locus line viewed from the viewpoint of the image pickup means is adapted to be projected onto the road surface to obtain a first projected line on the road surface, the first projected line is adapted to be viewed from the virtual viewpoint, and the first projected line as viewed from the virtual viewpoint is adapted to again be projected onto the plane corresponding to the road surface to obtain a second projected line as the locus line drawn on the synthesized image by projecting the locus or vertical line viewed from the viewpoint of the image pickup means onto the road surface and again projecting the projected locus or vertical line viewed from the virtual viewpoint onto the plane corresponding to the road surface;

a display means that is adapted to display a combined image of the synthesized image and an image of the locus or vertical line drawn on the plane by said picture synthesizing apparatus; and

a display data conversion means that is adapted to convert said combined image to be displayed into data suitable for said display means

storage means that is adapted to store auxiliary data; and

a drawing means that is adapted to superimpose stored auxiliary data upon a synthesized image produced by said viewpoint change image synthesizing means based on auxiliary data read from said storage means;

wherein said image pick up means is adapted to obtain an original image in which a rear part of said vehicle is positioned in a view field, wherein said viewpoint change image is adapted to produce a synthesized image including an image of at least a rear portion of said vehicle, and

wherein said picture synthesizing apparatus is adapted to represent said vehicle by an illustration of a skeleton or wire frame, and is adapted to provide an image that is adapted to

explicitly indicate a portion of said vehicle that is adapted to come into contact with said outside object.

51. (Currently amended) An The image synthesis/display apparatus according to claim 50, further comprising:

~~wherein said a picture synthesizing apparatus further comprises comprising:
an image pickup means that is attached to a vehicle disposed on a road surface and is
adapted to obtain an original image of a surrounding object viewed from a viewpoint of the
image pickup means;~~

~~a viewpoint change image synthesizing means that is adapted to produce a synthesized
image, in which the surrounding object is viewed from a virtual viewpoint different from the
viewpoint of the image pickup means along a direction substantially vertical to the road surface,
from the original image obtained by said image pickup means and is adapted to draw the
synthesized image on a plane corresponding to the road surface;~~

~~an auxiliary line generation means that is adapted to generate an auxiliary line
indicating an arbitrary position apart from said vehicle; and~~

~~an auxiliary line drawing means that is adapted to draw the auxiliary line generated by
said auxiliary line generation means on the synthesized image produced by said viewpoint
change image synthesizing means by projecting the auxiliary line viewed from the viewpoint of
the image pickup means onto the road surface and also projecting the projected auxiliary line
viewed from the virtual viewpoint onto the plane corresponding to the road surface;~~

~~a wherein said display means that is adapted to display the synthesized image including
the auxiliary line; and~~

a wherein the display data conversion means ~~that~~ is adapted to convert said synthesized image including the auxiliary line to be displayed into data suitable for said display means.

52. Cancelled

53. (Currently amended) An image acquirement warning apparatus comprising:

detection means for detecting an approaching state of an a-connection object that is outside a vehicle and is immanent to be collide with said connected-to-a vehicle, wherein the direction of the approaching state indicates that the indicating the approaching of the connection object is adapted to collide with to the vehicle;

a picture synthesizing apparatus comprising:

an image pickup means that is attached to said vehicle ear and/or said connection object placed on a road surface and is adapted to obtain an original image of an a-surrounding object outside said vehicle viewed from a viewpoint of the image pickup means;

a viewpoint change image synthesizing means that is adapted to produce a synthesized image, in which the surrounding outside object is adapted to be viewed from a virtual viewpoint different from the viewpoint of the image pickup means along a direction substantially vertical to the road surface, and different from the original image obtained by said image pickup means and is adapted to draw the synthesized image on a plane corresponding to the road surface;

a vehicle locus line generation means adapted to generate ~~at least one of~~ a locus line of said vehicle placed at an arbitrary height above from the road surface ~~and a vertical line extending normal to the road surface; and~~

a vehicle locus line drawing means adapted to draw the locus or vertical line generated by said vehicle locus line generation means on the synthesized image produced by said viewpoint change image synthesizing means such that when the locus line is viewed from the viewpoint of the image pickup means, the locus line viewed from the viewpoint of the image pickup means is adapted to be projected onto the road surface to obtain a first projected line on the road surface, the first projected line is adapted to be viewed from a vertical viewpoint, and the first projected line viewed from the vertical viewpoint is again projected onto the plane corresponding to the road surface to obtain a second projected line as the locus line drawn on the synthesized image by projecting the locus or vertical line viewed from the viewpoint of the image pickup means onto the road surface and again projecting the projected locus or vertical line viewed from the virtual viewpoint onto the plane corresponding to the road surface; and

warning means for generating a warning signal as a result of from said approaching state determined obtained by said detection means and/or a relation between said vehicle car and said outside connection object in the image synthesized by said picture synthesizing apparatus a storage means that is adapted to store predetermined data beforehand; and

a drawing means that is adapted to superimpose predetermined auxiliary data upon the synthesized image produced by said viewpoint change image synthesizing means based on the data read from said storage means.

54. (Currently amended) An The image acquirement warning apparatus according to claim 53, comprising:

~~detection means for detecting an approaching state of a connection object to be connected to a vehicle, the approaching state indicating the approaching of the connection object to the car;~~

wherein said a picture synthesizing apparatus further comprises comprising:

an image pickup means that is attached to a vehicle placed on a road surface and obtains

an original image of a surrounding object viewed from a viewpoint of the image pickup means;

a viewpoint change image synthesizing means that is adapted to produce a synthesized

image, in which the surrounding object is viewed from a virtual viewpoint different from the

viewpoint of the image pickup means along a direction substantially vertical to the road surface,

from the original image obtained by said image pickup means and is adapted to draw the

synthesized image on a plane corresponding to the road surface;

an auxiliary line generation means that is adapted to generate an auxiliary line

indicating an arbitrary position apart from said vehicle; and

an auxiliary line drawing means that is adapted to draw the auxiliary line generated by

said auxiliary line generation means on the synthesized image produced by said viewpoint

change image synthesizing means by projecting the auxiliary line viewed from the viewpoint of

the image pickup means onto the road surface and also projecting the projected auxiliary line

viewed from the virtual viewpoint onto the plane corresponding to the road surface; and

wherein said warning means is adapted to cause for generating a warning signal to be

generated in response to the from said approaching state identified obtained by said detection

means and/or a spatial relation between said vehicle and said outside connection object in the

synthesized image including the auxiliary line.

55. (Currently amended) The image acquirement warning apparatus comprising according to claim 53, wherein the picture synthesizing apparatus further comprises:

a storage means that is adapted to store predetermined data beforehand; and

a drawing means that is adapted to superimpose predetermined auxiliary data upon the synthesized image produced by said viewpoint change image synthesizing means based on the data read from said storage means.

56. (Previously presented) The image acquirement warning apparatus according to claim 53, further comprising warning signal generation condition setting means for a user to arbitrarily set a condition for generating the warning signal by said warning means.

57. (Currently amended) A vehicle position recognition apparatus comprising:
a picture synthesizing apparatus comprising:

a plurality of image pickup means that are adapted to be attached to a vehicle that is adapted to be disposed on a road surface, and includes a rear image pickup means for picking up an original image of an outside a surrounding object disposed behind said vehicle;

a viewpoint change image synthesizing means that is adapted to produce a synthesized image, in which the outside surrounding object is viewed from a virtual viewpoint different from the viewpoints of the image pickup means ~~along a direction substantially vertical to the road surface, and~~ from the original image obtained by said image pickup means, and is adapted to draw the synthesized image on a plane corresponding to the road surface;

a vehicle locus line generation means that is adapted to generate ~~at least one of~~ a locus line of said vehicle placed at an arbitrary height from the road surface ~~and a vertical line extending normal to the road surface; and~~

a vehicle locus line drawing means that is adapted to draw the locus ~~or vertical~~ line generated by said vehicle locus line generation means on the synthesized image produced by said viewpoint change image synthesizing means such that the locus line is adapted to be viewed

from the viewpoint of the image pickup means, the locus line viewed from the viewpoint of the image pickup means is adapted to be projected onto the road surface to obtain a first projected line on the road surface, the first projected line viewed from the vertical viewpoint is adapted to again be projected onto the plane corresponding to the road surface to obtain a second projected line as the locus line drawn on the synthesized image by projecting the locus or vertical line viewed from the viewpoint of the image pickup means onto the road surface and again projecting the projected locus or vertical line viewed from the virtual viewpoint onto the plane corresponding to the road surface; and

an image detection means that is adapted to detect an image of an arbitrary object from the original image obtained by said rear image pickup means or the synthesized image produced by said picture synthesizing apparatus;

a recognition means that is adapted to recognize a spatial position relation between the image of the arbitrary object detected by said image detection means and the image of said vehicle; and

a comparison means that is adapted to compare said spatial position relation recognized by said recognition means with a predetermined position relation, and is adapted to detect an amount of a deviation amount between the recognized spatial position relations from the predetermined position relations;

a storage means that is adapted to store predetermined data beforehand; and

a drawing means that is adapted to superimpose predetermined auxiliary data upon the synthesized image produced by said viewpoint change image synthesizing means based on the data read from said storage means.

58. (Currently amended) A The vehicle position recognition apparatus

according to claim 57: comprising:

wherein said a picture synthesizing apparatus further comprises comprising:

~~a plurality of image pickup means that are adapted to be attached to a vehicle, and includes a rear image pickup means for picking up an image of a surrounding object behind said, said vehicle being disposed on a road surface and is adapted to obtain a plurality of original images, respectively, viewed from a plurality of viewpoints of the image pickup means;~~

~~a viewpoint change image synthesizing means which produces a synthesized image, in which the surrounding object is viewed from a virtual viewpoint different from the viewpoint of the image pickup means along a direction substantially normal to the road surface, from the original images obtained by said image pickup means;~~

~~an auxiliary line generation means that is adapted to draw an auxiliary line indicating an arbitrary position apart from said vehicle; and~~

~~an auxiliary line drawing means that is adapted to draw the auxiliary line generated by said auxiliary line generation means on the synthesized image produced by said viewpoint change image synthesizing means by projecting the auxiliary line viewed from the viewpoint of the image pickup means onto the road surface and also projecting the projected auxiliary line viewed from the virtual viewpoint onto the plane corresponding to the road surface; and~~

~~an image detection means that is adapted to detect an image of an arbitrary object from the original image obtained by said rear image pickup means or the synthesized image produced by said picture synthesizing apparatus and including the auxiliary line;~~

~~a recognition means that is adapted to recognize a position relation between the image detected by said image detection means and the image of said vehicle; and~~

~~a comparison means that is adapted to compare said position relation recognized by said recognition means with a predetermined position relation, and is adapted to detect detects a deviation amount between the recognized position relations from the predetermined position relations.~~

59. Cancelled

60. (Previously presented) A vehicle position recognition apparatus as claimed in claim 57 wherein said vehicle is a car.

61. (Currently amend) A The picture synthesizing apparatus as claimed in claim 1 wherein said vehicle is a car.

62. (Currently amended) An The image synthesis/display apparatus as claimed in claim 50 wherein said vehicle is a car.

63. (Currently amended) An The image acquirement warning apparatus as claimed in claim 53 wherein said vehicle is a car.

64. (New) The image vehicle position recognition apparatus as claimed in claim 57 wherein said vehicle is a car.